SEQUENCE LISTING

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Leu Ala Pro Val Gly Thr Gln Gln Lys Pro Thr Gly Pro Thr Gln Arg 50 55 60

His Thr Tyr Tyr Ser Glu Cys Asp Glu Phe Arg Phe Ile Ala Pro Arg 65 70 75 80

Val Leu Asp Glu Asp Ala Pro Pro Glu Lys Arg Ala Gly Val His Asp 85 90 95

Gly His Leu Lys Arg Ala Pro Lys Val Tyr Cys Gly Gly Asp Glu Arg 100 105 110

Asp Val Leu Arg Val Gly Ser Gly Gly Phe Trp Pro Arg Arg Ser Arg 115 120 125

Leu Trp Gly Gly Val Asp His Ala Pro Ala Gly Phe Asn Pro Thr Val

130 135 140

Thr 145	Val	Phe	His	Val	Туѓ 150	Asp	Ile	Leu	Glu	Asn 155	Val	Glu	His	Ala	Туг 160
Gly	Met	Arg	Ala	Ala 165	Gln	Phe	His	Ala	Arg 170	Phe	Met	Asp	Ala	Ile 175	Thr
Pro	Thr	Gly	Thr 180	Val	Ile	Thr	Leu	Leu 185	Gly	Leu	Thr	Pro	Glu 190	Gly	His
Arg	Val	Ala 195	Val	His	Val	Tyr	Gly 200	Thr	Arg	Gln	Tyr	Phe 205	Tyr	Met	Asn
Lys	Glu 210	Glu	Val	Asp	Arg	His 215	Leu	Gln	Cys	Arg	Ala 220	Pro	Arg	Asp	Leu
Cys 225	Glu	Arg	Met	Ala	Ala 230	Ala	Leu	Arg	Glu	Ser 235	Pro	Gly	Ala	Ser	Phe 240
Arg	Gly	Ile	Ser	Ala 245	Asp	His	Phe	Glu	Ala 250	Glu	Val	Val	Glu	Arg 255	Thr
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Val	Arg	Ser 275		Arg	Val	Leu	Ser 280	Tyr	Leu	Cys	Asp	Asn 285	Phe	Cys	Pro
Ala	Ile 290	Lys	Lys	Tyr	Glu	Gly 295	Gly	Val	Asp	Ala	Thr 300		Arg	Phe	Ile
Leu 305	_	Asn	Pro	Gly	Phe 310		Thr	Phe	Gly	Trp 315		Arg	Leu	Lys	Pro 320
Gly	Arg	Asn	Asn	Thr 325		Ala	Gln	Pro	Arg 330		Pro	Met	Ala	Phe 335	
Thr	Ser	Ser	340		. Glu	Phe	Asn	Cys 345		Ala	Asp	Asn	Leu 350		Ile
Glu	ı Gly	Gly 355		. Ser	: Asp	Leu	360		Tyr	. Lys	Leu	Met 365		Phe	Asp
Ile	370		s Lys	ala	a Gly	Gly 375	g Glu	Asp	Glu	ı Lev	Ala 380		Pro	Val	Ala
Gl ₃ 38!		Pro	o Glu	ı Asr	390		Ile	Glr	ı Ile	9 Ser		Lev	ı Lev	туг	400
Le	ı Sei	Thi	r Thi	Ala 409		ı Glu	ı His	Val	Let 410		ı Phe	e Ser	. Lev	Gly 415	
Су	s Asp) Le	u Pro 420		u Sei	His	s Lev	425		Leı ي	ı Ala	a Ala	a Arg 430		, Lei
Pr	o Thi	2 Pro		l Va	l Lei	ı Glı	ı Phe 440		o Sei	r Glu	ı Phe	e Glu 449		. Leı	ı Leı
Al	a Pho		t Th	r Le	u Vai	l Ly:	s Glr	ту:	r Gl	y Pro	o Glu 460		e Vai	l Thi	c Gly

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- Val Leu Leu Asp Lys Gln Gln Ala Ala Ile Lys Val Val Cys Asn Ser 805 810 815
- Val Tyr Gly Phe Thr Gly Ala Gln His Gly Leu Leu Pro Cys Leu His 820 825 830
- Val Ala Ala Thr Val Thr Thr Ile Gly Arg Glu Met Leu Leu Ala Thr 835 840 845
- Arg Glu Tyr Val His Ala Arg Trp Ala Ala Phe Glu Gln Leu Leu Ala 850 855 860
- Asp Phe Pro Glu Ala Ala Asp Met Arg Ala Pro Gly Pro Tyr Ser Met 865 870 875 880
- Arg Ile Ile Tyr Gly Asp Thr Asp Ser Ile Phe Val Leu Cys Arg Gly 885 890 895
- Leu Thr Ala Ala Gly Leu Thr Ala Met Gly Asp Lys Met Ala Ser His 900 905 910
- Ile Ser Arg Ala Leu Phe Leu Pro Pro Ile Lys Leu Glu Cys Glu Lys 915 920 925
- Thr Phe Thr Lys Leu Leu Leu Ile Ala Lys Lys Lys Tyr Ile Gly Val 930 935 940
- Ile Tyr Gly Gly Lys Met Leu Ile Lys Gly Val Asp Leu Val Arg Lys 945 950 955 960
- Asn Asn Cys Ala Phe Ile Asn Arg Thr Ser Arg Ala Leu Val Asp Leu 965 970 975
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- Pro Glu Arg Asp Ile Gln Asp Phe Val Leu Thr Ala Glu Leu Ser 1025 1030 1035
- Arg His Pro Arg Ala Tyr Thr Asn Lys Arg Leu Ala His Leu Thr 1040 1045 1050
- Val Tyr Tyr Lys Leu Met Ala Arg Arg Ala Gln Val Pro Ser Ile 1055 1060 1065
- Lys Asp Arg Ile Pro Tyr Val Ile Val Ala Gln Thr Arg Glu Val 1070 1075 1080
- Glu Glu Thr Val Ala Arg Leu Ala Ala Leu Arg Glu Leu Asp Ala 1085 1090 1095
- Ala Ala Pro Gly Asp Glu Pro Ala Pro Pro Ala Ala Leu Pro Ser 1100 1105 1110
- Pro Ala Lys Arg Pro Arg Glu Thr Pro Ser His Ala Asp Pro Pro

1125 1120 1115 Gly Gly Ala Ser Lys Pro Arg Lys Leu Leu Val Ser Glu Leu Ala 1135 1130 Glu Asp Pro Ala Tyr Ala Ile Ala His Gly Val Ala Leu Asn Thr 1150 1145 Asp Tyr Tyr Phe Ser His Leu Leu Gly Ala Ala Cys Val Thr Phe 1165 1160 Lys Ala Leu Phe Gly Asn Asn Ala Lys Ile Thr Glu Ser Leu Leu 1180 Lvs Arg Phe Ile Pro Glu Val Trp His Pro Pro Asp Asp Val Ala 1200 1195 1190 Ala Arg Leu Arg Ala Ala Gly Phe Gly Ala Val Gly Ala Gly Ala 1210 Thr Ala Glu Glu Thr Arg Arg Met Leu His Arg Ala Phe Asp Thr 1220 1225 1230 Leu Ala 1235 <210> 7 <211> 3708 <212> DNA <213> herpes simplex <400> atgttttccg gtggcggcgg cccgctgtcc cccggaggaa agtcggcggc cagggcggcg 60 tecqqqtttt ttqcqcccqc cggccctcqc ggagccgqcc ggggaccccc gccttqcttq 120 aggcaaaact tttacaaccc ctacctcgcc ccagtcggga cgcaacagaa gccgaccggg 180 240 ccaacccagc gccatacgta ctatagcgaa tgcgatgaat ttcgattcat cgccccgcgg 300 gtgctggacg aggatgcccc cccggagaag cgcgccgggg tgcacgacgg tcacctcaag 360 cgcgccccca aggtgtactg cgggggggac gagcgcgacg tcctccgcgt cgggtcgggc ggcttctggc cgcggcgctc gcgcctgtgg ggcggcgtgg accacgcccc ggcggggttc 420 aaccccaccg tcaccgtctt tcacgtgtac gacatcctgg agaacgtgga gcacgcgtac 480 ggcatgcgcg cggcccagtt ccacgcgcgg tttatggacg ccatcacacc gacggggacc 540 600 qtcatcacgc tcctgggcct gactccggaa ggccaccggg tggccgttca cgtttacggc acgcggcagt acttttacat gaacaaggag gaggtcgaca ggcacctaca atgccgcgcc 660 720 ccacqagate tetgegageg catggeegeg gecetgegeg agteeceggg egegtegtte 780 cgcggcattt ccgcggacca cttcgaggcg gaggtggtgg agcgcaccga cgtgtactac 840 tacgagacgc gccccgctct gttttaccgc gtctacgtcc gaagcgggcg cgtgctgtcg

900

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Gly Arg Gly Pro Pro Pro Cys Leu Arg Gln Asn Phe Tyr Asn Pro Tyr 35 40 45

Leu Ala Pro Val Gly Thr Gln Gln Lys Pro Thr Gly Pro Thr Gln Arg 50 55 60

His Thr Tyr Tyr Ser Glu Cys Asp Glu Phe Arg Phe Ile Ala Pro Arg 65 70 75 80

Val Leu Asp Glu Asp Ala Pro Pro Glu Lys Arg Ala Gly Val His Asp 85 90 95

Gly His Leu Lys Arg Ala Pro Lys Val Tyr Cys Gly Gly Asp Glu Arg 100 105 110

Asp Val Leu Arg Val Gly Ser Gly Gly Phe Trp Pro Arg Arg Ser Arg

115 120 125

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Arg	Val	Ala 195	Val	His	Val	Tyr	Gly 200	Thr	Arg	Gln	Tyr	Phe 205	Tyr	Met	Asn
Lys	Glu 210	Glu	Val	Asp	Arg	His 215	Leu	Gln	Cys	Arg	Ala 220	Pro	Arg	Asp	Leu
Cys 225	Glu	Arg	Met	Ala	Ala 230		Leu	Arg	Glu	Ser 235	Pro	Gly	Ala	Ser	Phe 240
Arg	Gly	Ile	Ser	Ala 245	Asp	His	Phe	Glu	Ala 250	Glu	Val	Val	Glu	Arg 255	Thr
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Glu	ı Gly	7 Gly 35		: Ser	Asp	Leu	Pro 360		Tyr	Lys	Leu	Met 365		Phe	Asp
Ile	e Gl:	_	s Lys	s Ala	a Gly	7 Gly 375		Asp	Glu	Leu	Ala 380		Pro	Val	Ala
Gl ₃	_	s Pr	o Gl	ı Asp	2 Lev 390		Ile	Glr	ıle	Ser 395		Leu	. Leu	туг	Asp 400
Le	u Se	r Th	r Th	r Ala 40!		ı Glu	ı His	: Val	Leu 410		Phe	Ser	Leu	Gly 415	Ser
Су	s As	p Le	u Pro		u Sei	r His	s Lev	425		ı Leı	ı Ala	Alā	430		r Leu
Pr	o Th	r Pr 43		l Va	l Le	u Gli	ı Phe 440		Sei	c Glu	ı Phe	Glu 449		. Lev	ı Leu

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- Tyr Asn Ile Ile Asn Phe Asp Trp Pro Phe Leu Leu Ala Lys Leu Thr 465 470 475 480
- Asp Ile Tyr Lys Val Pro Leu Asp Gly Tyr Gly Arg Met Asn Gly Arg
 485 490 495
- Gly Val Phe Arg Val Trp Asp Ile Gly Gln Ser His Phe Gln Lys Arg 500 505 510
- Ser Lys Ile Lys Val Asn Gly Met Val Asn Ile Asp Met Tyr Gly Ile 515 520 525
- Ile Thr Asp Lys Ile Lys Leu Ser Ser Tyr Lys Leu Asn Ala Val Ala 530 540
- Glu Ala Val Leu Lys Asp Lys Lys Lys Asp Leu Ser Tyr Arg Asp Ile 545 550 555 560
- Pro Ala Tyr Tyr Ala Ala Gly Pro Ala Gln Arg Gly Val Ile Gly Glu 565 570 575
- Tyr Cys Ile Gln Asp Ser Leu Leu Val Gly Gln Leu Phe Phe Lys Phe 580 585 590
- Leu Pro His Leu Glu Leu Ser Ala Val Ala Arg Leu Ala Gly Ile Asn 595 600 605
- Ile Thr Arg Thr Ile Tyr Asp Gly Gln Gln Ile Arg Val Phe Thr Cys 610 620
- Leu Leu Arg Leu Ala Asp Gln Lys Gly Phe Ile Leu Pro Asp Thr Gln 625 630 635 640
- Gly Arg Phe Arg Gly Gly Gly Glu Ala Pro Lys Arg Pro Ala Ala 645 650 655
- Ala Arg Glu Asp Glu Glu Arg Pro Glu Glu Glu Gly Glu Asp Glu Asp 660 665 670
- Glu Arg Glu Glu Gly Gly Gly Glu Arg Glu Pro Glu Gly Ala Arg Glu 675 680 685
- Thr Ala Gly Arg His Val Gly Tyr Gln Gly Ala Arg Val Leu Asp Pro 690 695 700
- Thr Ser Gly Phe His Val Asn Pro Val Val Val Phe Asp Phe Ala Ser 705 710 715 720
- Leu Tyr Pro Ser Ile Ile Gln Ala His Asn Leu Cys Phe Ser Thr Leu 725 730 735
- Ser Leu Arg Ala Asp Ala Val Ala His Leu Glu Ala Gly Lys Asp Tyr 740 745 750
- Leu Glu Ile Glu Val Gly Gly Arg Arg Leu Phe Phe Val Lys Ala His
 755 760 765
- Val Arg Glu Ser Leu Leu Ser Ile Leu Leu Arg Asp Trp Leu Ala Met 770 780

- Arg Lys Gln Ile Arg Ser Arg Ile Pro Gln Ser Ser Pro Glu Glu Ala 785 790 795 800
- Val Leu Leu Asp Lys Gln Gln Ala Ala Ile Lys Val Val Cys Asn Ser 805 810 815
- Val Tyr Gly Phe Thr Gly Ala Gln His Gly Leu Leu Pro Cys Leu His 820 825 830
- Val Ala Ala Thr Val Thr Thr Ile Gly Arg Glu Met Leu Leu Ala Thr 835 840 845
- Arg Glu Tyr Val His Ala Arg Trp Ala Ala Phe Glu Gln Leu Leu Ala 850 855 860
- Asp Phe Pro Glu Ala Ala Asp Met Arg Ala Pro Gly Pro Tyr Ser Met 865 870 875
- Arg Ile Ile Tyr Gly Asp Thr Asp Ser Ile Phe Val Leu Cys Arg Gly 885 890 895
- Leu Thr Ala Ala Gly Leu Thr Ala Val Gly Asp Lys Met Ala Ser His 900 905 910
- Ile Ser Arg Ala Leu Phe Leu Ser Pro Ile Lys Leu Glu Cys Glu Lys 915 920 925
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- Ile Tyr Gly Gly Lys Met Leu Ile Lys Gly Val Asp Leu Val Arg Lys 945 950 955 960
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Val Arg Ser Gly Arg Val Leu Ser Tyr Leu Cys Asp Asn Phe Cys Pro 275 280 285

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- Thr Ala Gly Arg His Val Gly Tyr Gln Gly Ala Arg Val Leu Asp Pro 690 695 700
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- Leu Tyr Pro Ser Ile Ile Gln Ala His Asn Leu Cys Phe Ser Thr Leu 725 730 735
- Ser Leu Arg Ala Asp Ala Val Ala His Leu Glu Ala Gly Lys Asp Tyr 740 745 750
- Leu Glu Ile Glu Val Gly Gly Arg Arg Leu Phe Phe Val Lys Ala His 755 760 765

- Val Arg Glu Ser Leu Leu Ser Ile Leu Leu Arg Asp Trp Leu Ala Met 770 785 780
- Arg Lys Gln Ile Arg Ser Arg Ile Pro Gln Ser Ser Pro Glu Glu Ala 785 790 795 800
- Val Leu Leu Asp Lys Gln Gln Ala Ala Ile Lys Val Val Cys Asn Ser 805 810 815
- Val Tyr Gly Phe Thr Gly Ala Gln His Gly Leu Leu Pro Cys Leu His 820 825 830
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- Ser Val Val Ile Asp Met Tyr Pro Val Cys Met Ala Lys Thr Asn Ser 485 490 495
- Pro Asn Tyr Lys Leu Asn Thr Met Ala Glu Leu Tyr Leu Arg Gln Arg 500 505
- Lys Asp Asp Leu Ser Tyr Lys Asp Ile Pro Arg Cys Phe Val Ala Asn 515 520 525
- Ala Glu Gly Arg Ala Gln Val Gly Arg Tyr Cys Leu Gln Asp Ala Val 530 535
- Leu Val Arg Asp Leu Phe Asn Thr Ile Asn Phe His Tyr Glu Ala Gly 545 550 555 560
- Ala Ile Ala Arg Leu Ala Lys Ile Pro Leu Arg Arg Val Ile Phe Asp 565 570 575
- Gly Gln Gln Ile Arg Ile Tyr Thr Ser Leu Leu Asp Glu Cys Ala Cys 580 585
- Arg Asp Phe Ile Leu Pro Asn His Tyr Ser Lys Gly Thr Thr Val Pro 595 600 605
- Glu Thr Asn Ser Val Ala Val Ser Pro Asn Ala Ala Ile Ile Ser Thr 610 615 620
- Ala Ala Val Pro Gly Asp Ala Gly Ser Val Ala Ala Met Phe Gln Met 625 630 635 640
- Ser Pro Pro Leu Gln Ser Ala Pro Ser Ser Gln Asp Gly Val Ser Pro 645 650 655
- Gly Ser Gly Ser Asn Ser Ser Ser Ser Val Gly Val Phe Ser Val Gly 660 665 670
- Ser Gly Ser Ser Gly Gly Val Gly Val Ser Asn Asp Asn His Gly Ala 675 680 685
- Gly Gly Thr Ala Ala Val Ser Tyr Gln Gly Ala Thr Val Phe Glu Pro 690 695 700
- Glu Val Gly Tyr Tyr Asn Asp Pro Val Ala Val Phe Asp Phe Ala Ser 705 710 715 720
- Leu Tyr Pro Ser Ile Ile Met Ala His Asn Leu Cys Tyr Ser Thr Leu 725 730 735

- Leu Val Pro Gly Gly Glu Tyr Pro Val Asp Pro Ala Asp Val Tyr Ser 740 745 750
- Val Thr Leu Glu Asn Gly Val Thr His Arg Phe Val Arg Ala Ser Val 755 760 765
- Arg Val Ser Val Leu Ser Glu Leu Leu Asn Lys Trp Val Ser Gln Arg 770 780
- Arg Ala Val Arg Glu Cys Met Arg Glu Cys Gln Asp Pro Val Arg Arg 785 790 795 800
- Met Leu Leu Asp Lys Glu Gln Met Ala Leu Lys Val Thr Cys Asn Ala . 805 810 815
- Phe Tyr Gly Phe Thr Gly Ala Leu Asn Gly Met Met Pro Cys Leu Pro 820 825
- Ile Ala Ala Ser Ile Thr Arg Ile Gly Arg Asp Met Leu Glu Arg Thr 835 840 845
- Ala Arg Phe Ile Lys Asp Asn Phe Ser Glu Pro Cys Phe Leu His Asn 850 855
- Phe Phe Asn Gln Glu Asp Tyr Val Val Gly Thr Arg Glu Gly Asp Ser 865 870 875
- Glu Glu Ser Ser Ala Leu Pro Glu Gly Leu Glu Thr Ser Ser Gly Gly 885 890 895
- Ser Asn Glu Arg Arg Val Glu Ala Arg Val Ile Tyr Gly Asp Thr Asp 900 905 910
- Ser Val Phe Val Arg Phe Arg Gly Leu Thr Pro Gln Ala Leu Val Ala 915 920 925
- Arg Gly Pro Ser Leu Ala His Tyr Val Thr Ala Cys Leu Phe Val Glu 930 935
- Pro Val Lys Leu Glu Phe Glu Lys Val Phe Val Ser Leu Met Met Ile 945 950 955 960
- Cys Lys Lys Arg Tyr Ile Gly Lys Val Glu Gly Ala Ser Gly Leu Ser 965 970 975
- Met Lys Gly Val Asp Leu Val Arg Lys Thr Ala Cys Glu Phe Val Lys 980 985 990
- Gly Val Thr Arg Asp Val Leu Ser Leu Leu Phe Glu Asp Arg Glu Val 995 1000 1005
- Ser Glu Ala Ala Val Arg Leu Ser Arg Leu Ser Leu Asp Glu Val 1010 1015 1020
- Lys Lys Tyr Gly Val Pro Arg Gly Phe Trp Arg Ile Leu Arg Arg 1025 1030 1035
- Leu Val Gln Ala Arg Asp Asp Leu Tyr Leu His Arg Val Arg Val 1040 1045
- Glu Asp Leu Val Leu Ser Ser Val Leu Ser Lys Asp Ile Ser Leu 1055 1060 1065

- Tyr Arg Gln Ser Asn Leu Pro His Ile Ala Val Ile Lys Arg Leu 1070 1075 1080
- Ala Ala Arg Ser Glu Glu Leu Pro Ser Val Gly Asp Arg Val Phe 1085 1090 1095
- Tyr Val Leu Thr Ala Pro Gly Val Arg Thr Ala Pro Gln Gly Ser 1100 1105 1110
- Ser Asp Asn Gly Asp Ser Val Thr Ala Gly Val Val Ser Arg Ser 1115 1120 1125
- Asp Ala Ile Asp Gly Thr Asp Asp Asp Ala Asp Gly Gly Val 1130 1135
- Glu Glu Ser Asn Arg Arg Gly Gly Glu Pro Ala Lys Lys Arg Ala 1145 1150 1155
- Arg Lys Pro Pro Ser Ala Val Cys Asn Tyr Glu Val Ala Glu Asp 1160 1165 1170
- Pro Ser Tyr Val Arg Glu His Gly Val Pro Ile His Ala Asp Lys 1175 1180 1185
- Tyr Phe Glu Gln Val Leu Lys Ala Val Thr Asn Val Leu Ser Pro 1190 1195 1200
- Val Phe Pro Gly Gly Glu Thr Ala Arg Lys Asp Lys Phe Leu His 1205 1210 1215
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- Gly Lys Arg Pro Pro Gln Lys Gln Phe Leu Gln Ile Val Pro Arg Gly 35 40 45
- Val Met Phe Asp Gly Gln Thr Gly Leu Ile Lys His Lys Thr Gly Arg
- Leu Pro Leu Met Phe Tyr Arg Glu Ile Lys His Leu Leu Ser His Asp 65 70 75 80
- Met Val Trp Pro Cys Pro Trp Arg Glu Thr Leu Val Gly Arg Val Val 85 90 95

- Gly Pro Ile Arg Phe His Thr Tyr Asp Gln Thr Asp Ala Val Leu Phe 100 105 110
- Phe Asp Ser Pro Glu Asn Val Ser Pro Arg Tyr Arg Gln His Leu Val 115 120 125
- Pro Ser Gly Asn Val Leu Arg Phe Phe Gly Ala Thr Glu His Gly Tyr
- Ser Ile Cys Val Asn Val Phe Gly Gln Arg Ser Tyr Phe Tyr Cys Glu 145 150 155 160
- Tyr Ser Asp Thr Asp Arg Leu Arg Glu Val Ile Ala Ser Val Gly Glu 165 170 175
- Leu Val Pro Glu Pro Arg Thr Pro Tyr Ala Val Ser Val Thr Pro Ala 180 185 190
- Thr Lys Thr Ser Ile Tyr Gly Tyr Gly Thr Arg Pro Val Pro Asp Leu 195 200 205
- Gln Cys Val Ser Ile Ser Asn Trp Thr Met Ala Arg Lys Ile Gly Glu 210 215 220
- Tyr Leu Leu Glu Gln Gly Phe Pro Val Tyr Glu Val Arg Val Asp Pro 225 230 235 240
- Leu Thr Arg Leu Val Ile Asp Arg Arg Ile Thr Thr Phe Gly Trp Cys
 245 250 255
- Ser Val Asn Arg Tyr Asp Trp Arg Gln Gln Gly Arg Ala Ser Thr Cys 260 265 270
- Asp Ile Glu Val Asp Cys Asp Val Ser Asp Leu Val Ala Val Pro Asp 275 280 285
- Asp Ser Ser Trp Pro Arg Tyr Arg Cys Leu Ser Phe Asp Ile Glu Cys 290 295 300
- Met Ser Gly Glu Gly Gly Phe Pro Cys Ala Glu Lys Ser Asp Asp Ile 305 310 315
- Val Ile Gln Ile Ser Cys Val Cys Tyr Glu Thr Gly Gly Asn Thr Ala 325 330 335
- Val Asp Gln Gly Ile Pro Asn Gly Asn Asp Gly Arg Gly Cys Thr Ser 340 345 350
- Glu Gly Val Ile Phe Gly His Ser Gly Leu His Leu Phe Thr Ile Gly 355 360 365
- Thr Cys Gly Gln Val Gly Pro Asp Val Asp Val Tyr Glu Phe Pro Ser 370 375 380
- Glu Tyr Glu Leu Leu Gly Phe Met Leu Phe Phe Gln Arg Tyr Ala 385 390 395 400
- Pro Ala Phe Val Thr Gly Tyr Asn Ile Asn Ser Phe Asp Leu Lys Tyr
- Ile Leu Thr Arg Leu Glu Tyr Leu Tyr Lys Val Asp Ser Gln Arg Phe 420 425 430

- Cys Lys Leu Pro Thr Ala Gln Gly Gly Arg Phe Phe Leu His Ser Pro 435 440 445
- Ala Val Gly Phe Lys Arg Gln Tyr Ala Ala Ala Phe Pro Ser Ala Ser 450 455 460
- His Asn Asn Pro Ala Ser Thr Ala Ala Thr Lys Val Tyr Ile Ala Gly 465 470 475 480
- Ser Val Val Ile Asp Met Tyr Pro Val Cys Met Ala Lys Thr Asn Ser
- Pro Asn Tyr Lys Leu Asn Thr Met Ala Glu Leu Tyr Leu Arg Gln Arg 500 505 510
- Lys Asp Asp Leu Ser Tyr Lys Asp Ile Pro Arg Cys Phe Val Ala Asn 515 520 525
- Ala Glu Gly Arg Ala Gln Val Gly Arg Tyr Cys Leu Gln Asp Ala Val 530 535 540
- Leu Val Arg Asp Leu Phe Asn Thr Ile Asn Phe His Tyr Glu Ala Gly 545 550 555
- Ala Ile Ala Arg Leu Ala Lys Ile Pro Leu Arg Arg Val Ile Phe Asp 565 570 575
- Gly Gln Gln Ile Arg Ile Tyr Thr Ser Leu Leu Asp Glu Cys Ala Cys 580 585 590
- Arg Asp Phe Ile Leu Pro Asn His Tyr Ser Lys Gly Thr Thr Val Pro
- Glu Thr Asn Ser Val Ala Val Ser Pro Asn Ala Ala Ile Ile Ser Thr 610 615 620
- Ala Ala Val Pro Gly Asp Ala Gly Ser Val Ala Ala Met Phe Gln Met 625 630 635 640
- Ser Pro Pro Leu Gln Ser Ala Pro Ser Ser Gln Asp Gly Val Ser Pro 645 650 655
- Gly Ser Gly Ser Asn Ser Ser Ser Ser Val Gly Val Phe Ser Val Gly 660 665 670
- Ser Gly Ser Ser Gly Gly Val Gly Val Ser Asn Asp Asn His Gly Ala 675 680 685
- Gly Gly Thr Ala Ala Val Ser Tyr Gln Gly Ala Thr Val Phe Glu Pro 690 695 700
- Glu Val Gly Tyr Tyr Asn Asp Pro Val Ala Val Phe Asp Phe Ala Ser 705 710 715 720
- Leu Tyr Pro Ser Ile Ile Met Ala His Asn Leu Cys Tyr Ser Thr Leu 725 730 735
- Leu Val Pro Gly Gly Glu Tyr Pro Val Asp Pro Ala Asp Val Tyr Ser 740 745 750
- Val Thr Leu Glu Asn Gly Val Thr His Arg Phe Val Arg Ala Ser Val

Arg Ala Val Arg Glu Cys Met Arg Glu Cys Gln Arg 790 Typ Val Ser Gln Arg 795 Typ Val Ser Gln Arg 800

765

Met Leu Leu Asp Lys Glu Gln Met Ala Leu Lys Val Thr Cys Asn Ala 805 810 815

Phe Tyr Gly Phe Thr Gly Val Val Asn Gly Met Met Pro Cys Leu Pro 820 825 830

Ile Ala Ala Ser Ile Thr Arg Ile Gly Arg Asp Met Leu Glu Arg Thr 835 840 845

Ala Arg Phe Ile Lys Asp Asn Phe Ser Glu Pro Cys Phe Leu His Asn 850 855 860

Phe Phe Asn Gln Glu Asp Tyr Val Val Gly Thr Arg Glu Gly Asp Ser 865 870 875 880

Glu Glu Ser Ser Ala Leu Pro Glu Gly Leu Glu Thr Ser Ser Gly Gly 885 890 895

Ser Asn Glu Arg Arg Val Glu Ala Arg Val Ile Tyr Gly Asp Thr Asp 900 905 910

Ser Val Phe Val Arg Phe Arg Gly Leu Thr Pro Gln Ala Leu Val Ala 915 920 925

Arg Gly Pro Ser Leu Ala His Tyr Val Thr Ala Cys Leu Phe Val Glu 930 935 940

Pro Val Lys Leu Glu Phe Glu Lys Val Phe Val Ser Leu Met Met Ile 945 950 955 960

Cys Lys Lys Arg Tyr Ile Gly Lys Val Glu Gly Ala Ser Gly Leu Ser 965 970 975

Met Lys Gly Val Asp Leu Val Arg Lys Thr Ala Cys Glu Phe Val Lys 980 985 990

Gly Val Thr Arg Asp Val Leu Ser Leu Leu Phe Glu Asp Arg Glu Val 995 1000 1005

Ser Glu Ala Ala Val Arg Leu Ser Arg Leu Ser Leu Asp Glu Val 1010 1015 1020

Lys Lys Tyr Gly Val Pro Arg Gly Phe Trp Arg Ile Leu Arg Arg 1025 1030 1035

Leu Val Gln Ala Arg Asp Asp Leu Tyr Leu His Arg Val Arg Val 1040 1045 1050

Glu Asp Leu Val Leu Ser Ser Val Leu Ser Lys Asp Ile Ser Leu 1055 1060 1065

Tyr Arg Gln Ser Asn Leu Pro His Ile Ala Val Ile Lys Arg Leu 1070 1075 1080

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- Tyr Val Leu Thr Ala Pro Gly Val Arg Thr Ala Pro Gln Gly Ser 1100 1105
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- Val Phe Pro Gly Gly Glu Thr Ala Arg Lys Asp Lys Phe Leu His 1205 1210 1215
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- His Leu Ala Gln Thr Gly Thr Gln Pro Lys Ala Pro Gly Pro Ala Gln 50 55 60
- Arg His Thr Tyr Tyr Ser Glu Cys Asp Glu Phe Arg Phe Ile Ala Pro 65 70 75 80
- Arg Ser Leu Asp Glu Asp Ala Pro Ala Glu Gln Arg Thr Gly Val His 85 90 95
- Asp Gly Arg Leu Arg Arg Ala Pro Lys Val Tyr Cys Gly Gly Asp Glu 100 105 110
- Arg Asp Val Leu Arg Val Gly Pro Glu Gly Phe Trp Pro Arg Arg Leu

115		120	125	
Arg Leu Trp G	ly Gly Ala Asp 135	His Ala Pro	Lys Gly Phe . 140	Asp Pro Thr
Val Thr Val P 145	he His Val Tyr 150	Asp Ile Leu	Glu His Val 155	Glu His Ala 160
Tyr Ser Met A	arg Ala Ala Gln 165	Leu His Glu 170	Arg Phe Met	Asp Ala Ile 175
	Gly Thr Val Ile 180	Thr Leu Leu 185	Gly Leu Thr	Pro Glu Gly 190
His Arg Val A	Ala Val His Val	Tyr Gly Thr 200	Arg Gln Tyr 205	Phe Tyr Met
Asn Lys Ala (210	Glu Val Asp Arg 215	g His Leu Gln 5	Cys Arg Ala 220	Pro Arg Asp
Leu Cys Glu 2 225	Arg Leu Ala Ala 230	a Ala Leu Arg	Glu Ser Pro 235	Gly Ala Ser 240
Phe Arg Gly	Ile Ser Ala Ası 245	p His Phe Glu 250	Ala Glu Val	Val Glu Arg 255
Ala Asp Val	Tyr Tyr Tyr Gl 260	u Thr Arg Pro 265	Thr Leu Tyr	Tyr Arg Val 270
Phe Val Arg 275	Ser Gly Arg Al	a Leu Ala Tyr 280	Leu Cys Asp 285	Asn Phe Cys
Pro Ala Ile 290	Arg Lys Tyr Gl	u Gly Gly Vai	l Asp Ala Thr 300	Thr Arg Phe
Ile Leu Asp 305	Asn Pro Gly Ph 310	ne Val Thr Ph	e Gly Trp Tyn 315	Arg Leu Lys 320
Pro Gly Arg	Gly Asn Ala Pr 325	ro Ala Gln Pr 33	o Arg Pro Pro O	o Thr Ala Phe 335
Gly Thr Ser	Ser Asp Val GI	lu Phe Asn Cy 345	s Thr Ala As	p Asn Leu Ala 350
Val Glu Gly 355	Ala Met Cys A	sp Leu Pro Al 360	a Tyr Lys Le 36	u Met Cys Phe 5
Asp Ile Glu 370	ı Cys Lys Ala G 3	ly Gly Glu As 75	sp Glu Leu Al 380	a Phe Pro Val
Ala Glu Arg 385	g Pro Glu Asp L 390	seu Val Ile G	ln Ile Ser Cy 395	rs Leu Leu Tyr 400
Asp Leu Se	r Thr Thr Ala I 405	Leu Glu His I 4	le Leu Leu Ph 10	ne Ser Leu Gly 415
Ser Cys As	p Leu Pro Glu S 420	Ser His Leu S 425	er Asp Leu A	la Ser Arg Gly 430
Leu Pro Al 43	a Pro Val Val I 5	Leu Glu Phe A 440	sp Ser Glu Pl 4	he Glu Met Leu 45

Leu Ala Phe Met Thr Phe Val Lys Gln Tyr Gly Pro Glu Phe Val Thr 455 450 Gly Tyr Asn Ile Ile Asn Phe Asp Trp Pro Phe Val Leu Thr Lys Leu 470 475 Thr Glu Ile Tyr Lys Val Pro Leu Asp Gly Tyr Gly Arg Met Asn Gly 485 Arg Gly Val Phe Arg Val Trp Asp Ile Gly Gln Ser His Phe Gln Lys Arg Ser Lys Ile Lys Val Asn Gly Met Val Asn Ile Asp Met Tyr Gly 515 Ile Ile Thr Asp Lys Val Lys Leu Ser Ser Tyr Lys Leu Asn Ala Val 535 Ala Glu Ala Val Leu Lys Asp Lys Lys Asp Leu Ser Tyr Arg Asp 550 Ile Pro Ala Tyr Tyr Ala Ser Gly Pro Ala Gln Arg Gly Val Ile Gly 570 Glu Tyr Cys Val Gln Asp Ser Leu Leu Val Gly Gln Leu Phe Phe Lys 580 Phe Leu Pro His Leu Glu Leu Ser Ala Val Ala Arg Leu Ala Gly Ile 600 Asn Ile Thr Arg Thr Ile Tyr Asp Gly Gln Gln Ile Arg Val Phe Thr 610 Cys Leu Leu Arg Leu Ala Gly Gln Lys Gly Phe Ile Leu Pro Asp Thr 635 Gln Gly Arg Phe Arg Gly Leu Asp Lys Glu Ala Pro Lys Arg Pro Ala Val Pro Arg Gly Glu Gly Glu Arg Pro Gly Asp Gly Asp Glu 665 Asp Lys Asp Asp Glu Asp Glu Asp Gly Asp Glu Arg Glu Glu Val Ala Arg Glu Thr Gly Gly Arg His Val Gly Tyr Gln Gly Ala Arg Val 695 Leu Asp Pro Thr Ser Gly Phe His Val Asp Pro Val Val Phe Asp 705 Phe Ala Ser Leu Tyr Pro Ser Ile Ile Gln Ala His Asn Leu Cys Phe 730 Ser Thr Leu Ser Leu Arg Pro Glu Ala Val Ala His Leu Glu Ala Asp

780

Arg Asp Tyr Leu Glu Ile Glu Val Gly Gly Arg Arg Leu Phe Phe Val 755 760 765

Lys Ala His Val Arg Glu Ser Leu Leu Ser Ile Leu Leu Arg Asp Trp

- Leu Ala Met Arg Lys Gln Ile Arg Ser Arg Ile Pro Gln Ser Thr Pro 785 790 795. 800
- Glu Glu Ala Val Leu Leu Asp Lys Gln Gln Ala Ala Ile Lys Val Val 805 810 815
- Cys Asn Ser Val Tyr Gly Phe Thr Gly Val Gln His Gly Leu Leu Pro 820 825 830
- Cys Leu His Val Ala Ala Thr Val Thr Thr Ile Gly Arg Glu Met Leu 835 840 845
- Leu Ala Thr Arg Ala Tyr Val His Ala Arg Trp Ala Glu Phe Asp Gln
 850 860
- Leu Leu Ala Asp Phe Pro Glu Ala Ala Gly Met Arg Ala Pro Gly Pro 865 870 875 880
- Tyr Ser Met Arg Ile Ile Tyr Gly Asp Thr Asp Ser Ile Phe Val Leu 885 890 895
- Cys Arg Gly Leu Thr Ala Ala Gly Leu Val Ala Met Gly Asp Lys Met 900 905 910
- Ala Ser His Ile Ser Arg Ala Leu Phe Leu Pro Pro Ile Lys Leu Glu 915 920 925
- Cys Glu Lys Thr Phe Thr Lys Leu Leu Leu Ile Ala Lys Lys Lys Tyr 930 935 940
- Ile Gly Val Ile Cys Gly Gly Lys Met Leu Ile Lys Gly Val Asp Leu 945 950 955 960
- Val Arg Lys Asn Asn Cys Ala Phe Ile Asn Arg Thr Ser Arg Ala Leu 965 970 975
- Val Asp Leu Leu Phe Tyr Asp Asp Thr Val Ser Gly Ala Ala Ala Ala 980 985 990
- Leu Ala Glu Arg Pro Ala Glu Glu Trp Leu Ala Arg Pro Leu Pro Glu 995 1000 1005
- Gly Leu Gln Ala Phe Gly Ala Val Leu Val Asp Ala His Arg Arg 1010 1015 1020
- Ile Thr Asp Pro Glu Arg Asp Ile Gln Asp Phe Val Leu Thr Ala 1025 1030 1035
- Glu Leu Ser Arg His Pro Arg Ala Tyr Thr Asn Lys Arg Leu Ala 1040 1045 1050
- His Leu Thr Val Tyr Tyr Lys Leu Met Ala Arg Arg Ala Gln Val 1055 1060 1065
- Pro Ser Ile Lys Asp Arg Ile Pro Tyr Val Ile Val Ala Gln Thr 1070 1075 1080
- Arg Glu Val Glu Glu Thr Val Ala Arg Leu Ala Ala Leu Arg Glu 1085 1090 1095
- Leu Asp Ala Ala Pro Gly Asp Glu Pro Ala Pro Pro Ala Ala

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Glu	Leu 1145	Ala	Glu	Asp	Pro	Gly 1150		Ala	a Ile	e Ala	11:		ly V	/al	Pro
Leu	Asn 1160	Thr	Asp	Tyr	Tyr	Phe 1165		His	s Leu	ı Lev	ı Gl		la i	Ala	Cys
Val	Thr 1175		Lys	Ala	Leu	Phe 1180		y Ası	n Asr	n Ala	a Ly 11	s I 85	le '	Thr	Glu
Ser	Leu 1190		Lys	Arg	Phe	Ile 1195		o Gl	u Thi	r Tr		s F 00	Pro	Pro	Asp
Asp	Val 1205		Ala	Arg	Leu	Arg 121		a Al	a Gly	y Ph		у I 15	Pro .	Ala	Gly
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Th	r Gln	Thr 35	Ala	Pro	Pro	Pro	Cys 40	Arg	Arg	Gln	Asn	Phe 45	Туі	Ası	n Pro
Hi	s Leu 50	Ala	Gln	Thr	Gly	Thr 55	Gln	Pro	Lys	Ala	Pro 60	Gly	Pro	Ala	a Gln

Asp Gly Arg Leu Arg Arg Ala Pro Lys Val Tyr Cys Gly Gly Asp Glu 110 Arg Asp Val Leu Arg Val Gly Pro Glu Gly Phe Trp Pro Arg Arg Leu 135 Trp Gly Gly Ala Asp His Ala Pro Glu Gly Gly Phe Asp Pro Thr

Arg His Thr Tyr Tyr Ser Glu Cys Asp Glu Phe Arg Phe Ile Ala Pro

Arg Ser Leu Asp Glu Asp Ala Pro Ala Glu Gln Arg Thr Gly Val His 85 90 95

- Thr Pro Ala Gly Thr Val Ile Thr Leu Leu Gly Leu Thr Pro Glu Gly 180 185 190
- His Arg Val Ala Val His Val Tyr Gly Thr Arg Gln Tyr Phe Tyr Met
 195 200 205
- Asn Lys Ala Glu Val Asp Arg His Leu Gln Cys Arg Ala Pro Arg Asp 210 215 220
- Leu Cys Glu Arg Leu Ala Ala Ala Leu Arg Glu Ser Pro Gly Ala Ser 225 230 235 240
- Phe Arg Gly Ile Ser Ala Asp His Phe Glu Ala Glu Val Val Glu Arg 245 250 255
- Ala Asp Val Tyr Tyr Glu Thr Arg Pro Thr Leu Tyr Tyr Arg Val 260 265 270
- Phe Val Arg Ser Gly Arg Ala Leu Ala Tyr Leu Cys Asp Asn Phe Cys 275 280 285
- Pro Ala Ile Arg Lys Tyr Glu Gly Gly Val Asp Ala Thr Thr Arg Phe 290 . 295 300
- Ile Leu Asp Asn Pro Gly Phe Val Thr Phe Gly Trp Tyr Arg Leu Lys 305 310 315 320
- Pro Gly Arg Gly Asn Ala Pro Ala Gln Pro Arg Pro Pro Thr Ala Phe 325 330 335
- Gly Thr Ser Ser Asp Val Glu Phe Asn Cys Thr Ala Asp Asn Leu Ala 340 345 350
- Val Glu Gly Ala Met Cys Asp Leu Pro Ala Tyr Lys Leu Met Cys Phe 355 360 365
- Asp Ile Glu Cys Lys Ala Gly Gly Glu Asp Glu Leu Ala Phe Pro Val 370 380
- Ala Glu Arg Pro Glu Asp Leu Val Ile Gln Ile Ser Cys Leu Leu Tyr 385 390 395 400
- Asp Leu Ser Thr Thr Ala Leu Glu His Ile Leu Leu Phe Ser Leu Gly 405 410 415
- Ser Cys Asp Leu Pro Glu Ser His Leu Ser Asp Leu Ala Ser Arg Gly 420 425 430
- Leu Pro Ala Pro Val Val Leu Glu Phe Asp Ser Glu Phe Glu Met Leu
 435 440 445
- Leu Ala Phe Met Thr Phe Val Lys Gln Tyr Gly Pro Glu Phe Val Thr 450 455 460
- Gly Tyr Asn Ile Ile Asn Phe Asp Trp Pro Phe Val Leu Thr Lys Leu

Thr Glu Ile Tyr Lys Val Pro Leu Asp Gly Tyr Gly Arg Met Asn Gly
485 490 495

465

Arg Gly Val Phe Arg Val Trp Asp Ile Gly Gln Ser His Phe Gln Lys 500 505 510

Arg Ser Lys Ile Lys Val Asn Gly Met Val Asn Ile Asp Met Tyr Gly 515 520 525

Ile Ile Thr Asp Lys Val Lys Leu Ser Ser Tyr Lys Leu Asn Ala Val 530 535 540

Ala Glu Ala Val Leu Lys Asp Lys Lys Lys Asp Leu Ser Tyr Arg Asp 545 550 555 560

Ile Pro Ala Tyr Tyr Ala Ser Gly Pro Ala Gln Arg Gly Val Ile Gly 565 570 575

Glu Tyr Cys Val Gln Asp Ser Leu Leu Val Gly Gln Leu Phe Phe Lys 580 585 590

Phe Leu Pro His Leu Glu Leu Ser Ala Val Ala Arg Leu Ala Gly Ile 595 600 605

Asn Ile Thr Arg Thr Ile Tyr Asp Gly Gln Gln Ile Arg Val Phe Thr 610 615 620

Cys Leu Leu Arg Leu Ala Gly Gln Lys Gly Phe Ile Leu Pro Asp Thr 625 630 635

Gln Gly Arg Phe Arg Gly Leu Asp Lys Glu Ala Pro Lys Arg Pro Ala 645 650 655

Val Pro Arg Gly Glu Gly Glu Arg Pro Gly Asp Gly Asn Gly Asp Glu 660 665 670

Asp Lys Asp Asp Glu Asp Gly Asp Glu Asp Gly Asp Glu Arg Glu 675 680 685

Glu Val Ala Arg Glu Thr Gly Gly Arg His Val Gly Tyr Gln Gly Ala 690 695 700

Arg Val Leu Asp Pro Thr Ser Gly Phe His Val Asp Pro Val Val 705 710 715 720

Phe Asp Phe Ala Ser Leu Tyr Pro Ser Ile Ile Gln Ala His Asn Leu 725 730 735

Cys Phe Ser Thr Leu Ser Leu Arg Pro Glu Ala Val Ala His Leu Glu 740 745 750

Ala Asp Arg Asp Tyr Leu Glu Ile Glu Val Gly Gly Arg Arg Leu Phe 755 760 765

Phe Val Lys Ala His Val Arg Glu Ser Leu Leu Ser Ile Leu Leu Arg 770 775 780

Asp Trp Leu Ala Met Arg Lys Gln Ile Arg Ser Arg Ile Pro Gln Ser
785 7.90 795 800

- Pro Pro Glu Glu Ala Val Leu Leu Asp Lys Gln Gln Ala Ala Ile Lys 805 810 815
- Val Val Cys Asn Ser Val Tyr Gly Phe Thr Gly Val Gln His Gly Leu 820 825 830
- Leu Pro Cys Leu His Val Ala Ala Thr Val Thr Thr Ile Gly Arg Glu 845
- Met Leu Leu Ala Thr Arg Ala Tyr Val His Ala Arg Trp Ala Glu Phe 850 855 860
- Asp Gln Leu Leu Ala Asp Phe Pro Glu Ala Ala Gly Met Arg Ala Pro 865 870 875 880
- Gly Pro Tyr Ser Met Arg Ile Ile Tyr Gly Asp Thr Asp Ser Ile Phe 885 890 895
- Val Leu Cys Arg Gly Leu Thr Ala Ala Gly Leu Val Ala Met Gly Asp 900 905 910
- Lys Met Ala Ser His Ile Ser Arg Ala Leu Phe Leu Pro Pro Ile Lys 915 920 925
- Leu Glu Cys Glu Lys Thr Phe Thr Lys Leu Leu Leu Ile Ala Lys Lys 930 935 940
- Lys Tyr Ile Gly Val Ile Cys Gly Gly Lys Met Leu Ile Lys Gly Val 945 950 955 960
- Asp Leu Val Arg Lys Asn Asn Cys Ala Phe Ile Asn Arg Thr Ser Arg 965 970 975
- Ala Leu Val Asp Leu Leu Phe Tyr Asp Asp Thr Val Ser Gly Ala Ala 980 985 990
- Ala Ala Leu Ala Glu Arg Pro Ala Glu Glu Trp Leu Ala Arg Pro Leu 995 1000 1005
- Pro Glu Gly Leu Gln Ala Phe Gly Ala Val Leu Val Asp Ala His 1010 1015 1020
- Arg Arg Ile Thr Asp Pro Glu Arg Asp Ile Gln Asp Phe Val Leu 1025 1030 1035
- Thr Ala Glu Leu Ser Arg His Pro Arg Ala Tyr Thr Asn Lys Arg 1040 1045 1050
- Leu Ala His Leu Thr Val Tyr Tyr Lys Leu Met Ala Arg Arg Ala 1055 1060 1065
- Gln Val Pro Ser Ile Lys Asp Arg Ile Pro Tyr Val Ile Val Ala 1070 1075 1080
- Gln Thr Arg Glu Val Glu Glu Thr Val Ala Arg Leu Ala Ala Leu 1085 1090 1095
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- Ala Ala Leu Pro Ser Pro Ala Lys Arg Pro Arg Glu Thr Pro Ser 1115 1120 1125

- His Ala Asp Pro Pro Gly Gly Ala Ser Lys Pro Arg Lys Leu Leu 1130 1135 1140
- Val Ser Glu Leu Ala Glu Asp Pro Gly Tyr Ala Ile Ala Arg Gly 1145 1150 1155
- Val Pro Leu Asn Thr Asp Tyr Tyr Phe Ser His Leu Leu Gly Ala 1160 1165 1170
- Ala Cys Val Thr Phe Lys Ala Leu Phe Gly Asn Asn Ala Lys Ile 1175 1180 1185
- Thr Glu Ser Leu Leu Lys Arg Phe Ile Pro Glu Thr Trp His Pro 1190 1195 1200
- Pro Asp Asp Val Ala Ala Arg Leu Arg Ala Ala Gly Phe Gly Pro 1205 1210 1215
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- Leu Ala Pro Val Gly Thr Gln Gln Lys Pro Thr Gly Pro Thr Gln Arg
 50 55 60
- His Thr Tyr Tyr Ser Glu Cys Asp Glu Phe Arg Phe Ile Ala Pro Arg 65 70 75 80
- Val Leu Asp Glu Asp Ala Pro Pro Glu Lys Arg Ala Gly Val His Asp 85 90 95
- Gly His Leu Lys Arg Ala Pro Lys Val Tyr Cys Gly Gly Asp Glu Arg 100 105 110
- Asp Val Leu Arg Val Gly Ser Gly Gly Phe Trp Pro Arg Arg Ser Arg 115 120 125
- Leu Trp Gly Gly Val Asp His Ala Pro Ala Gly Phe Asn Pro Thr Val 130 135 140
- Thr Val Phe His Val Tyr Asp Ile Leu Glu Asn Val Glu His Ala Tyr 145 150 155 160

Gly Met Arg Ala Ala Gln Phe His Ala Arg Phe Met Asp Ala Ile Thr 165 Pro Thr Gly Thr Val Ile Thr Leu Leu Gly Leu Thr Pro Glu Gly His 185 Arg Val Ala Val His Val Tyr Gly Thr Arg Gln Tyr Phe Tyr Met Asn Lys Glu Glu Val Asp Arg His Leu Gln Cys Arg Ala Pro Arg Asp Leu Cys Glu Arg Met Ala Ala Leu Arg Glu Ser Pro Gly Ala Ser Phe 230 Arg Gly Ile Ser Ala Asp His Phe Glu Ala Glu Val Val Glu Arg Thr 250 Asp Val Tyr Tyr Glu Thr Arg Pro Ala Leu Phe Tyr Arg Val Tyr 260 Val Arg Ser Gly Arg Val Leu Ser Tyr Leu Cys Asp Asn Phe Cys Pro 280 Ala Ile Lys Lys Tyr Glu Gly Gly Val Asp Ala Thr Thr Arg Phe Ile Leu Asp Asn Pro Gly Phe Val Thr Phe Gly Trp Tyr Arg Leu Lys Pro 315 Gly Arg Asn Asn Thr Leu Ala Gln Pro Arg Ala Pro Met Ala Phe Gly Thr Ser Ser Asp Val Glu Phe Asn Cys Thr Ala Asp Asn Leu Ala Ile 345 Glu Gly Gly Met Ser Asp Leu Pro Ala Tyr Lys Leu Met Cys Phe Asp Ile Glu Cys Lys Ala Gly Gly Glu Asp Glu Leu Ala Phe Pro Val Ala 375 Gly His Pro Glu Asp Leu Val Ile Gln Ile Ser Cys Leu Leu Tyr Asp 395 385 Leu Ser Thr Thr Ala Leu Glu His Val Leu Leu Phe Ser Leu Gly Ser 410 Cys Asp Leu Pro Glu Ser His Leu Asn Glu Leu Ala Ala Arg Gly Leu Pro Thr Pro Val Val Leu Glu Phe Asp Ser Glu Phe Glu Met Leu Leu 445 440 Ala Phe Met Thr Leu Val Lys Gln Tyr Gly Pro Glu Phe Val Thr Gly Tyr Asn Ile Ile Asn Phe Asp Trp Pro Phe Leu Leu Ala Lys Leu Thr 475 470

490

Asp Ile Tyr Lys Val Pro Leu Asp Gly Tyr Gly Arg Met Asn Gly Arg

- Gly Val Phe Arg Val Trp Asp Ile Gly Gln Ser His Phe Gln Lys Arg 500 505 510
- Ser Lys Ile Lys Val Asn Gly Met Val Asn Ile Asp Met Tyr Gly Ile 515 520 525
- Ile Thr Asp Lys Ile Lys Leu Ser Ser Tyr Lys Leu Asn Ala Val Ala 530 535 540
- Glu Ala Val Leu Lys Asp Lys Lys Lys Asp Leu Ser Tyr Arg Asp Ile 545 550 555 560
- Pro Ala Tyr Tyr Ala Ala Gly Pro Ala Gln Arg Gly Val Ile Gly Glu
 565 570 575
- Tyr Cys Ile Gln Asp Ser Leu Leu Val Gly Gln Leu Phe Phe Lys Phe 580 585 590
- Leu Pro His Leu Glu Leu Ser Ala Val Ala Arg Leu Ala Gly Ile Asn 595 600 605
- Ile Thr Arg Thr Ile Tyr Asp Gly Gln Gln Ile Arg Val Phe Thr Cys 610 615 620
- Leu Leu Arg Leu Ala Asp Gln Lys Gly Phe Ile Leu Pro Asp Thr Gln 625 630 635 640
- Gly Arg Phe Arg Gly Ala Gly Glu Ala Pro Lys Arg Pro Ala Ala 645 650 655
- Ala Arg Glu Asp Glu Glu Arg Pro Glu Glu Glu Glu Glu Asp Glu Asp
 660 665 670
- Glu Arg Glu Glu Gly Gly Gly Glu Arg Glu Pro Glu Gly Ala Arg Glu 675 680 685
- Thr Ala Gly Arg His Val Gly Tyr Gln Gly Ala Arg Val Leu Asp Pro 690 695 700
- Thr Ser Gly Phe His Val Asn Pro Val Val Phe Asp Phe Ala Ser 705 710 715 720
- Leu Tyr Pro Ser Ile Ile Gln Ala His Asn Leu Cys Phe Ser Thr Leu 725 730 735
- Ser Leu Arg Ala Asp Ala Val Ala His Leu Glu Ala Gly Lys Asp Tyr 740 745 750
- Leu Glu Ile Glu Val Gly Gly Arg Arg Leu Phe Phe Val Lys Ala His 755 760 765
- Val Arg Glu Ser Leu Leu Ser Ile Leu Leu Arg Asp Trp Leu Ala Met 770 785
- Arg Lys Gln Ile Arg Ser Arg Ile Pro Gln Ser Ser Pro Glu Glu Ala 785 790 795 800
- Val Leu Leu Asp Lys Gln Gln Ala Ala Ile Lys Val Val Cys Asn Ser 805 810 815
- Val Tyr Gly Phe Thr Gly Val Gln His Gly Leu Leu Pro Cys Leu His

820 825 830

Val Ala Ala Thr Val Thr Thr Ile Gly Arg Glu Met Leu Leu Ala Thr 835 840 845

- Arg Glu Tyr Val His Ala Arg Trp Ala Ala Phe Glu Gln Leu Leu Ala 850 855 860
- Asp Phe Pro Glu Ala Ala Asp Met Arg Ala Pro Gly Pro Tyr Ser Met 865 870 875 888
- Arg Ile Ile Tyr Gly Asp Thr Asp Ser Ile Phe Val Leu Cys Arg Gly 885 890 895
- Leu Thr Ala Ala Gly Leu Thr Ala Met Gly Asp Lys Met Ala Ser His 900 905 910
- Ile Ser Arg Ala Leu Phe Leu Pro Pro Ile Lys Leu Glu Cys Glu Lys 915 920 925
- Thr Phe Thr Lys Leu Leu Ile Ala Lys Lys Lys Tyr Ile Gly Val 930 935 940
- Ile Tyr Gly Gly Lys Met Leu Ile Lys Gly Val Asp Leu Val Arg Lys 945 950 955 960
- Asn Asn Cys Ala Phe Ile Asn Arg Thr Ser Arg Ala Leu Val Asp Leu 965 970 975
- Leu Phe Tyr Asp Asp Thr Val Ser Gly Ala Ala Ala Ala Leu Ala Glu 980 985 990
- Arg Pro Ala Glu Glu Trp Leu Ala Arg Pro Leu Pro Glu Gly Leu Gln 995 1000 1005
- Ala Phe Gly Ala Val Leu Val Asp Ala His Arg Arg Ile Thr Asp 1010 1015 1020
- Pro Glu Arg Asp Ile Gln Asp Phe Val Leu Thr Ala Glu Leu Ser 1025 1030 1035
- Arg His Pro Arg Ala Tyr Thr Asn Lys Arg Leu Ala His Leu Thr 1040 1045 1050
- Val Tyr Tyr Lys Leu Met Ala Arg Arg Ala Gln Val Pro Ser Ile 1055 1060 1065
- Lys Asp Arg Ile Pro Tyr Val Ile Val Ala Gln Thr Arg Glu Val 1070 1075 1080
- Glu Glu Thr Val Ala Arg Leu Ala Ala Leu Arg Glu Leu Asp Ala 1085 1090 1095
- Ala Ala Pro Gly Asp Glu Pro Ala Pro Pro Ala Ala Leu Pro Ser 1100 1105 1110
- Pro Ala Lys Arg Pro Arg Glu Thr Pro Ser His Ala Asp Pro Pro 1115 1120 1125
- Gly Gly Ala Ser Lys Pro Arg Lys Leu Leu Val Ser Glu Leu Ala 1130 1135 1140

- Glu Asp Pro Ala Tyr Ala Ile Ala His Gly Val Ala Leu Asn Thr 1145 . 1150 1155
- Asp Tyr Tyr Phe Ser His Leu Leu Gly Ala Ala Cys Val Thr Phe 1160 1165 1170
- Lys Ala Leu Phe Gly Asn Asn Ala Lys Ile Thr Glu Ser Leu Leu 1175 1180 1185
- Lyś Arg Phe Ile Pro Glu Val Trp His Pro Pro Asp Asp Val Ala 1190 1195 1200
- Ala Arg Leu Arg Ala Ala Gly Phe Gly Ala Val Gly Ala Gly Ala 1205 1210 1215
- Thr Ala Glu Glu Thr Arg Arg Met Leu His Arg Ala Phe Asp Thr 1220 · 1225 1230

Leu Ala 1235

<210> 17

<211> 1235

<212> PRT

<213> herpes simplex

<400> 17

- Met Phe Ser Gly Gly Gly Pro Leu Ser Pro Gly Gly Lys Ser Ala 1 5 10 15
- Ala Arg Ala Ala Ser Gly Phe Phe Ala Pro Ala Gly Pro Arg Gly Ala 20 25 30
- Gly Arg Gly Pro Pro Pro Cys Leu Arg Gln Asn Phe Tyr Asn Pro Tyr 35 40 45
- Leu Ala Pro Val Gly Thr Gln Gln Lys Pro Thr Gly Pro Thr Gln Arg 50 55 60
- His Thr Tyr Tyr Ser Glu Cys Asp Glu Phe Arg Phe Ile Ala Pro Arg 65 70 75 80
- Val Leu Asp Glu Asp Ala Pro Pro Glu Lys Arg Ala Gly Val His Asp 85 90 95 .
- Gly His Leu Lys Arg Ala Pro Lys Val Tyr Cys Gly Gly Asp Glu Arg 100 105 110
- Asp Val Leu Arg Val Gly Ser Gly Gly Phe Trp Pro Arg Arg Ser Arg 115 120 125
- Leu Trp Gly Gly Val Asp His Ala Pro Ala Gly Phe Asn Pro Thr Val 130 135 140
- Thr Val Phe His Val Tyr Asp Ile Leu Glu Asn Val Glu His Ala Tyr 145 150 155 160
- Gly Met Arg Ala Ala Gln Phe His Ala Arg Phe Met Asp Ala Ile Thr 165 170 175
- Pro Thr Gly Thr Val Ile Thr Leu Leu Gly Leu Thr Pro Glu Gly His

Arg Val Ala Val His Val Tyr Gly Thr Arg Gln Tyr Phe Tyr Met Asn 200 Lys Glu Glu Val Asp Arg His Leu Gln Cys Arg Ala Pro Arg Asp Leu 220 215 Cys Glu Arg Met Ala Ala Ala Leu Arg Glu Ser Pro Gly Ala Ser Phe Arg Gly Ile Ser Ala Asp His Phe Glu Ala Glu Val Val Glu Arg Thr 250 Asp Val Tyr Tyr Tyr Glu Thr Arg Pro Ala Leu Phe Tyr Arg Val Tyr Val Arg Ser Gly Arg Val Leu Ser Tyr Leu Cys Asp Asn Phe Cys Pro 280 Ala Ile Lys Lys Tyr Glu Gly Gly Val Asp Ala Thr Thr Arg Phe Ile Leu Asp Asn Pro Gly Phe Val Thr Phe Gly Trp Tyr Arg Leu Lys Pro 310 Gly Arg Asn Asn Thr Leu Ala Gln Pro Arg Ala Pro Met Ala Phe Gly 325 Thr Ser Ser Asp Val Glu Phe Asn Cys Thr Ala Asp Asn Leu Ala Ile 345 Glu Gly Gly Met Ser Asp Leu Pro Ala Tyr Lys Leu Met Cys Phe Asp Ile Glu Cys Lys Ala Gly Gly Glu Asp Glu Leu Ala Phe Pro Val Ala 375 Gly His Pro Glu Asp Leu Val Ile Gln Ile Ser Cys Leu Leu Tyr Asp 390 Leu Ser Thr Thr Ala Leu Glu His Val Leu Leu Phe Ser Leu Gly Ser 410 405 Cys Asp Leu Pro Glu Ser His Leu Asn Glu Leu Ala Ala Arg Gly Leu 425 Pro Thr Pro Val Val Leu Glu Phe Asp Ser Glu Phe Glu Met Leu Leu 440 Ala Phe Met Thr Leu Val Lys Gln Tyr Gly Pro Glu Phe Val Thr Gly 455 Tyr Asn Ile Ile Asn Phe Asp Trp Pro Phe Leu Leu Ala Lys Leu Thr 475 Asp Ile Tyr Lys Val Pro Leu Asp Gly Tyr Gly Arg Met Asn Gly Arg

510

Gly Val Phe Arg Val Trp Asp Ile Gly Gln Ser His Phe Gln Lys Arg 505

Ser Lys Ile Lys Val Asn Gly Met Val Asn Ile Asp Met Tyr Gly Ile 520 Ile Thr Asp Lys Ile Lys Leu Ser Ser Tyr Lys Leu Asn Ala Val Ala 535 Glu Ala Val Leu Lys Asp Lys Lys Lys Asp Leu Ser Tyr Arg Asp Ile 550 Pro Ala Tyr Tyr Ala Ala Gly Pro Ala Gln Arg Gly Val Ile Gly Glu 570 Tyr Cys Ile Gln Asp Ser Leu Leu Val Gly Gln Leu Phe Phe Lys Phe Leu Pro His Leu Glu Leu Ser Ala Val Ala Arg Leu Ala Gly Ile Asn 600 Ile Thr Arg Thr Ile Tyr Asp Gly Gln Gln Ile Arg Val Phe Thr Cys 610 Leu Leu Arg Leu Ala Asp Gln Lys Gly Phe Ile Leu Pro Asp Thr Gln Gly Arg Phe Arg Gly Ala Gly Gly Glu Ala Pro Lys Arg Pro Ala Ala 645 Ala Arg Glu Asp Glu Glu Arg Pro Glu Glu Glu Gly Glu Asp Glu Asp 665 Glu Arg Glu Glu Gly Gly Glu Arg Glu Pro Glu Gly Ala Arg Glu Thr Ala Gly Arg His Val Gly Tyr Gln Gly Ala Arg Val Leu Asp Pro 695 Ile Ser Gly Phe His Val Asn Pro Val Val Val Phe Asp Phe Ala Ser 705 Leu Tyr Pro Ser Ile Ile Gln Ala His Asn Leu Cys Phe Ser Thr Leu Ser Leu Arg Ala Asp Ala Val Ala His Leu Glu Ala Gly Lys Asp Tyr 740 745 Leu Glu Ile Glu Val Gly Gly Arg Arg Leu Phe Phe Val Lys Ala His Val Arg Glu Ser Leu Leu Ser Ile Leu Leu Arg Asp Trp Leu Ala Met 775 Arg Lys Gln Ile Arg Ser Arg Ile Pro Gln Ser Ser Pro Glu Glu Ala 795 Val Leu Leu Asp Lys Gln Gln Ala Ile Lys Val Val Cys Asn Ser 810 815 Val Tyr Gly Phe Thr Gly Val Gln His Gly Leu Leu Pro Cys Leu His

Val Ala Ala Thr Val Thr Thr Ile Gly Arg Glu Met Leu Leu Ala Thr

- Arg Glu Tyr Val His Ala Arg Trp Ala Ala Phe Glu Gln Leu Leu Ala 850 855 860
- Asp Phe Pro Glu Ala Ala Asp Met Arg Ala Pro Gly Pro Tyr Ser Met 865 870 875 880
- Arg Ile Ile Tyr Gly Asp Thr Asp Ser Ile Phe Val Leu Cys Arg Gly 885 890 895
- Leu Thr Ala Ala Gly Leu Thr Ala Met Gly Asp Lys Met Ala Ser His
 900 905 910
- Ile Ser Arg Ala Leu Phe Leu Pro Pro Ile Lys Leu Glu Cys Glu Lys 915 920 925
- Thr Phe Thr Lys Leu Leu Ile Ala Lys Lys Lys Tyr Ile Gly Val 930 940
- Ile Tyr Gly Gly Lys Met Leu Ile Lys Gly Val Asp Leu Val Arg Lys 945 950 955 960
- Asn Asn Cys Ala Phe Ile Asn Arg Thr Ser Arg Ala Leu Val Asp Leu 965 970 975
- Leu Phe Tyr Asp Asp Thr Val Ser Gly Ala Ala Ala Ala Leu Ala Glu 980 985 990
- Arg Pro Ala Glu Glu Trp Leu Ala Arg Pro Leu Pro Glu Gly Leu Gln
 995 1000 1005
- Ala Phe Gly Ala Val Leu Val Asp Ala His Arg Arg Ile Thr Asp 1010 1015 1020
- Pro Glu Arg Asp Ile Gln Asp Phe Val Leu Thr Ala Glu Leu Ser 1025 1030 1035
- Arg His Pro Arg Ala Tyr Thr Asn Lys Arg Leu Ala His Leu Thr 1040 1045 1050
- Val Tyr Tyr Lys Leu Met Ala Arg Arg Ala Gln Val Pro Ser Ile 1055 1060 1065
- Lys Asp Arg Ile Pro Tyr Val Ile Val Ala Gln Thr Arg Glu Val 1070 1075 1080
- Glu Glu Thr Val Ala Arg Leu Ala Ala Leu Arg Glu Leu Asp Ala 1085 1090 1095
- Ala Ala Pro Gly Asp Glu Pro Ala Pro Pro Ala Ala Leu Pro Ser 1100 1105 1110
- Pro Ala Lys Arg Pro Arg Glu Thr Pro Ser Pro Ala Asp Pro Pro 1115 1120 1125
- Gly Gly Ala Ser Lys Pro Arg Lys Leu Leu Val Ser Glu Leu Ala 1130 1135 1140
- Glu Asp Pro Ala Tyr Ala Ile Ala His Gly Val Ala Leu Asn Thr 1145 1150 1155
- Asp Tyr Tyr Phe Ser His Leu Leu Gly Ala Ala Cys Val Thr Phe

1160 1165 1170

Lys Ala Leu Phe Gly Asn Asn Ala Lys Ile Thr Glu Ser Leu Leu 1175 1180 . 1185

Lys Arg Phe Ile Pro Glu Val Trp His Pro Pro Asp Asp Val Thr 1190 1195 1200

Ala Arg Leu Arg Ala Ala Gly Phe Gly Ala Val Gly Ala Gly Ala 1205 1210 1215

Thr Ala Glu Glu Thr Arg Arg Met Leu His Arg Ala Phe Asp Thr 1220 1225 1230

Leu Ala 1235

<210> 18

<211> 1235

<212> PRT

<213> herpes simplex

<400> 18

Met Phe Ser Gly Gly Gly Pro Leu Ser Pro Gly Gly Lys Ser Ala 1 5 10 15

Ala Arg Ala Ser Gly Phe Phe Ala Pro Ala Gly Pro Arg Gly Ala 20 25 30

Gly Arg Gly Pro Pro Pro Cys Leu Arg Gln Asn Phe Tyr Asn Pro Tyr 35 40 45

Leu Ala Pro Val Gly Thr Gln Gln Lys Pro Thr Gly Pro Thr Gln Arg 50 55 60

His Thr Tyr Tyr Ser Glu Cys Asp Glu Phe Arg Phe Ile Ala Pro Arg 65 70 75 80

Val Leu Asp Glu Asp Ala Pro Pro Glu Lys Arg Ala Gly Val His Asp 85 90 95

Gly His Leu Lys Arg Ala Pro Lys Val Tyr Cys Gly Gly Asp Glu Arg
100 105 110

Asp Val Leu Arg Val Gly Ser Gly Gly Phe Trp Pro Arg Arg Ser Arg 115 120 125

Leu Trp Gly Gly Val Asp His Ala Pro Ala Gly Phe Asn Pro Thr Val 130 135 140

Thr Val Phe His Val Tyr Asp Ile Leu Glu Asn Val Glu His Ala Tyr 145 150 155 160

Gly Met Arg Ala Ala Gln Phe His Ala Arg Phe Met Asp Ala Ile Thr 165 170 175

Pro Thr Gly Thr Val Ile Thr Leu Leu Gly Leu Thr Pro Glu Gly His 180 185 190

Arg Val Ala Val His Val Tyr Gly Thr Arg Gln Tyr Phe Tyr Met Asn 195 200 205 Lys Glu Glu Val Asp Arg His Leu Gln Cys Arg Ala Pro Arg Asp Leu 210 215 220 Cys Glu Arg Met Ala Ala Ala Leu Arg Glu Ser Pro Gly Ala Ser Phe

235

Arg Gly Ile Ser Ala Asp His Phe Glu Ala Glu Val Val Glu Arg Thr 245 250 255

- Asp Val Tyr Tyr Glu Thr Arg Pro Ala Leu Phe Tyr Arg Val Tyr 260 265 270
- Val Arg Ser Gly Arg Val Leu Ser Tyr Leu Cys Asp Asn Phe Cys Pro 275 280 285
- Ala Ile Lys Lys Tyr Glu Gly Gly Val Asp Ala Thr Thr Arg Phe Ile 290 295 300
- Leu Asp Asn Pro Gly Phe Val Thr Phe Gly Trp Tyr Arg Leu Lys Pro 305 310 315 320
- Gly Arg Asn Asn Thr Leu Ala Gln Pro Arg Ala Pro Met Ala Phe Gly 325 330 335
- Thr Ser Ser Asp Val Glu Phe Asn Cys Thr Ala Asp Asn Leu Ala Ile 340 345 350
- Glu Gly Gly Met Ser Asp Leu Pro Ala Tyr Lys Leu Met Cys Phe Asp 355 360 365
- Ile Glu Cys Lys Ala Gly Gly Glu Asp Glu Leu Ala Phe Pro Val Ala 370 380
- Gly His Pro Glu Asp Leu Val Ile Gln Ile Ser Cys Leu Leu Tyr Asp 385 390 395 400
- Leu Ser Thr Thr Ala Leu Glu His Val Leu Leu Phe Ser Leu Gly Ser 405 410 415
- Cys Asp Leu Pro Glu Ser His Leu Asn Glu Leu Ala Ala Arg Gly Leu 420 425 430
- Pro Thr Pro Val Val Leu Glu Phe Asp Ser Glu Phe Glu Met Leu Leu 435 440 445
- Ala Phe Met Thr Leu Val Lys Gln Tyr Gly Pro Glu Phe Val Thr Gly 450 455 460
- Tyr Asn Ile Ile Asn Phe Asp Trp Pro Phe Leu Leu Ala Lys Leu Thr 465 470 475 480
- Asp Ile Tyr Lys Val Pro Leu Asp Gly Tyr Gly Arg Met Asn Gly Arg 485 490 495
- Gly Val Phe Arg Val Trp Asp Ile Gly Gln Ser His Phe Gln Lys Arg
 500 505 510
- Ser Lys Ile Lys Val Asn Gly Met Val Asn Ile Asp Met Tyr Gly Ile 515 520 525
- Ile Thr Asp Lys Ile Lys Leu Ser Ser Tyr Lys Leu Asn Ala Val Ala

530 535 540

Glu 545	Ala	Val	Leu	Lys	Asp 550	Lys	Lys	Lys	Asp	Leu 555	Ser	Tyr	Arg	Asp	Ile 560
Pro	Thr	Tyr	Tyr	Ala 565	Ala	Gly	Pro	Ala	Gln 570	Arg	Gly	Val	Ile	Gly 575	Glu
Tyr	Cys	Ile	Gln 580	Asp	Ser	Leu	Leu	Val 585	Gly	Gln	Leu	Phe	Phe 590	Lys	Phe
Leu	Pro	His 595	Leu	Glu	Leu	Ser	Ala 600	Val	Ala	Arg	Leu	Ala 605	Gly	Ile	Asn
Ile	Thr 610	Arg	Thr	Ile	Tyr	Asp 615	Gly	Gln	Gln	Ile	Arg 620	Val	Phe	Thr	Суѕ
Leu 625	Leu	Arg	Leu	Ala	Asp 630	Gln	Lys	Gly	Phe	Ile 635	Leu	Pro	Asp	Thr	Gln 640
Gly	Arg	Phe	Arg	Gly 645	Ala	Gly	Gly	Glu	Ala 650	Pro	Lys	Arg	Pro	Ala 655	Ala
Ala	Arg	Glu	Asp 660	Glu	Glu	Arg	Pro	Glu 665	Glu	Glu	Gly	Glu	Asp 670	Glu	Asn
Glu	Arg	Glu 675	Glu	Gly	Gly	Gly	Glu 680	Arg	Glu	Pro	Glu	Gly 685	Ala	Arg	Glu
Thr	Ala 690	Gly	Arg	His	Val	Gly 695	Tyr	Gln	Gly	Ala	Arg 700	Val	Leu	Asp	Pro
Thr 705	Ser	Gly	Phe	His	Val 710	Asn	Pro	Val	Val	Val 715	Phe	Asp	Phe	Ala	Ser 720
Leu	Tyr	Pro	Ser	Ile 725	Ile	Gln	Ala	His	Asn 730		Cys	Phe	Ser	Thr 735	Leu
Ser	Leu	Arg	Ala 740	Asp	Ala	Val	Ala	His 745		Glu	Ala	Gly	Lys 750	Asp	Tyr
Leu	Glu	Ile 755		Val	Gly	Gly	Arg 760	-	Leu	Phe	Phe	Val 765	Lys	Ala	His
Val	Arg 770		Ser	Leu	Leu	Ser 775		Leu	Leu	Arg	Asp 780	Trp	Leu	Ala	Met
Arg 785		Gln	lle	Arg	Ser 790		Ile	Pro	Gln	Ser 795		Pro	Glu	Glu	Ala 800
Val	Leu	Leu	Asp	Lys 805	Gln	Gln	Ala	Ala	1le 810		Val	Val	Суѕ	Asn 815	Ser
Val	Tyr	Gly	Phe 820		Gly	Val	Gln	His 825	_	Leu	Leu	Pro	Cys 830		His
Val	. Ala	Ala 835		Val	Thr	Thr	11e 840		Arg	g Glu	Met	Leu 845		Ala	Thr
Arg	g Glu 850		· Val	His	s Ala	Arg 855		Ala	Ala	Phe	Glu 860		Leu	Leu	Ala

- Asp Phe Pro Glu Ala Ala Asp Met Arg Ala Pro Gly Pro Tyr Ser Met 865 870 875 880
- Arg Ile Ile Tyr Gly Asp Thr Asp Ser Ile Phe Val Leu Cys Arg Gly 885 890 895
- Leu Thr Ala Ala Gly Leu Thr Ala Val Gly Asp Lys Met Ala Ser His
 900 905 910
- Ile Ser Arg Ala Leu Phe Leu Pro Pro Ile Lys Leu Glu Cys Glu Lys 915 920 925
- Thr Phe Thr Lys Leu Leu Ile Ala Lys Lys Lys Tyr Ile Gly Val 930 935 940
- Ile Tyr Gly Gly Lys Met Leu Ile Lys Gly Val Asp Leu Val Arg Lys 945 955 960
- Asn Asn Cys Ala Phe Ile Asn Arg Thr Ser Arg Ala Leu Val Asp Leu
 965 970 975
- Leu Phe Tyr Asp Asp Thr Val Ser Gly Ala Ala Ala Ala Leu Ala Glu 980 985 990
- Arg Pro Ala Glu Glu Trp Leu Ala Arg Pro Leu Pro Glu Gly Leu Gln
 995 1000 1005
- Ala Phe. Gly Ala Val Leu Val Asp Ala His Arg Arg Ile Thr Asp 1010 1015 1020
- Pro Glu Arg Asp Ile Gln Asp Phe Val Leu Thr Ala Glu Leu Ser 1025 1030 1035
- Arg His Pro Arg Ala Tyr Thr Asn Lys Arg Leu Ala His Leu Thr 1040 1045 1050
- Val Tyr Tyr Lys Leu Met Ala Arg Arg Ala Gln Val Pro Ser Ile 1055 1060 1065
- Glu Glu Thr Val Ala Arg Leu Ala Ala Leu Arg Glu Leu Asp Ala 1085 1090 1095
- Ala Ala Pro Gly Asp Glu Pro Ala Pro Pro Ala Ala Leu Pro Ser 1100 1105 1110
- Pro Ala Lys Arg Pro Arg Glu Thr Pro Ser Pro Ala Asp Pro Pro 1115 1120 1125
- Gly Gly Ala Ser Lys Pro Arg Lys Leu Leu Val Ser Glu Leu Ala 1130 1135 1140
- Glu Asp Pro Ala Tyr Ala Ile Ala His Gly Val Ala Leu Asn Thr 1145 1150 1155
- Asp Tyr Tyr Phe Ser His Leu Leu Gly Ala Ala Cys Val Thr Phe 1160 1165 1170
- Lys Ala Leu Phe Gly Asn Asn Ala Lys Ile Thr Glu Ser Leu Leu 1175 1180 1185

Lys Arg Phe Ile Pro Glu Val Trp His Pro Pro Asp Asp Val Ala 1190 1195 1200

Ala Arg Leu Arg Thr Ala Gly Phe Gly Ala Val Gly Ala Gly Ala 1205 1210 1215 '

Thr Ala Glu Glu Thr Arg Arg Met Leu His Arg Ala Phe Asp Thr 1220 1225 1230

Leu Ala 1235

<210> 19

<211> 1235

<212> PRT

<213> herpes simplex

<400> 19

Met Phe Ser Gly Gly Gly Pro Leu Ser Pro Gly Gly Lys Ser Ala
1 5 10 15

Ala Arg Ala Ala Ser Gly Phe Phe Ala Pro Ala Gly Pro Arg Gly Ala
20 25 30

Gly Arg Gly Pro Pro Pro Cys Leu Arg Gln Asn Phe Tyr Asn Pro Tyr 35 40 45

Leu Ala Pro Val Gly Thr Gln Gln Lys Pro Thr Gly Pro Thr Gln Arg 50 55 60

His Thr Tyr Tyr Ser Glu Cys Asp Glu Phe Arg Phe Ile Ala Pro Arg 65 70 75 80

Val Leu Asp Glu Asp Ala Pro Pro Glu Lys Arg Ala Gly Val His Asp 85 90 95

Gly His Leu Lys Arg Ala Pro Lys Val Tyr Cys Gly Gly Asp Glu Arg 100 105 110

Asp Val Leu Arg Val Gly Ser Gly Gly Phe Trp Pro Arg Arg Ser Arg 115 120 125

Leu Trp Gly Gly Val Asp His Ala Pro Ala Gly Phe Asn Pro Thr Val 130 135 140

Thr Val Phe His Val Tyr Asp Ile Leu Glu Asn Val Glu His Ala Tyr 145 150 155 160

Gly Met Arg Ala Ala Gln Phe His Ala Arg Phe Met Asp Ala Ile Thr 165 170 175

Pro Thr Gly Thr Val Ile Thr Leu Leu Gly Leu Thr Pro Glu Gly His
180 185 190

Arg Val Ala Val His Val Tyr Gly Thr Arg Gln Tyr Phe Tyr Met Asn 195 200 205

Lys Glu Glu Val Asp Arg His Leu Gln Cys Arg Ala Pro Arg Asp Leu 210 215 220

Cys Glu Arg Met Ala Ala Ala Leu Arg Glu Ser Pro Gly Ala Ser Phe 230 Arg Gly Ile Ser Ala Asp His Phe Glu Ala Glu Val Val Glu Arg Thr 250 245 Asp Val Tyr Tyr Tyr Glu Thr Arg Pro Ala Leu Phe Tyr Arg Val Tyr Val Arg Ser Gly Arg Val Leu Ser Tyr Leu Cys Asp Asn Phe Cys Pro 280 Ala Ile Lys Lys Tyr Glu Gly Gly Val Asp Ala Thr Thr Arg Phe Ile Leu Asp Asn Pro Gly Phe Val Thr Phe Gly Trp Tyr Arg Leu Lys Pro Gly Arg Asn Asn Thr Leu Ala Gln Pro Arg Ala Pro Met Ala Phe Gly Thr Ser Ser Asp Val Glu Phe Asn Cys Thr Ala Asp Asn Leu Ala Ile Glu Gly Gly Met Ser Asp Leu Pro Ala Tyr Lys Leu Met Cys Phe Asp Ile Glu Cys Lys Ala Gly Gly Glu Asp Glu Leu Ala Phe Pro Val Ala Gly His Pro Glu Asp Leu Val Ile Gln Ile Ser Cys Leu Leu Tyr Asp 385 390 Leu Ser Thr Thr Ala Leu Glu His Val Leu Leu Phe Ser Leu Gly Ser 405 410 Cys Asp Leu Pro Glu Ser His Leu Asn Glu Leu Ala Ala Arg Gly Leu 420 425 Pro Thr Pro Val Val Leu Glu Phe Asp Ser Glu Phe Glu Met Leu Leu 440 Ala Phe Met Thr Leu Val Lys Gln Tyr Gly Pro Glu Phe Val Thr Gly 450 455 Tyr Asn Ile Ile Asn Phe Asp Trp Pro Phe Leu Leu Ala Lys Leu Thr 470 Asp Ile Tyr Lys Val Pro Leu Asp Gly Tyr Gly Arg Met Asn Gly Arg 485 490 Gly Val Phe Arg Val Trp Asp Ile Gly Gln Ser His Phe Gln Lys Arg 500 505 Ser Lys Ile Lys Val Asn Gly Met Val Asn Ile Asp Met Tyr Gly Ile 515 520 525 Ile Thr Asp Lys Ile Lys Leu Ser Ser Tyr Lys Leu Asn Ala Val Ala Glu Ala Val Leu Lys Asp Lys Lys Lys Asp Leu Ser Tyr Arg Asp Ile 555 560

- Pro Ala Tyr Tyr Ala Ala Gly Pro Ala Gln Arg Gly Val Ile Gly Glu 565 570 575
- Tyr Cys Ile Gln Asp Ser Leu Leu Val Gly Gln Leu Phe Phe Lys Phe 580 585 590
- Leu Pro His Leu Glu Leu Ser Ala Val Ala Arg Leu Ala Gly Ile Asn 595 600 605
- Ile Thr Arg Thr Ile Tyr Asp Gly Gln Gln Ile Arg Val Phe Thr Cys 610 620
- Leu Leu Arg Leu Ala Asp Gln Lys Gly Phe Ile Leu Pro Asp Thr Gln 625 630 635 640
- Gly Arg Phe Arg Gly Gly Gly Glu Ala Pro Lys Arg Pro Ala Ala 645 650 655
- Ala Arg Glu Asp Glu Glu Arg Pro Glu Glu Glu Glu Glu Asp Glu Asp 660 665 670
- Glu Arg Glu Glu Gly Gly Glu Arg Glu Pro Glu Gly Ala Arg Glu 675 680 685
- Thr Ala Gly Arg His Val Gly Tyr Gln Gly Ala Arg Val Leu Asp Pro 690 695 700
- Thr Ser Gly Phe His Val Asn Pro Val Val Phe Asp Phe Ala Ser 705 710 715 720
- Leu Tyr Pro Ser Ile Ile Gln Ala His Asn Leu Cys Phe Ser Thr Leu 725 730 735
- Ser Leu Arg Ala Asp Ala Val Ala His Leu Glu Ala Gly Lys Asp Tyr 740 745 750
- Leu Glu Ile Glu Val Gly Gly Arg Arg Leu Phe Phe Val Lys Ala His
 755 760 765
- Val Arg Glu Ser Leu Leu Ser Ile Leu Leu Arg Asp Trp Leu Ala Met 770 775 780
- Arg Lys Gln Ile Arg Ser Arg Ile Pro Gln Ser Ser Pro Glu Glu Ala 785 790 795 800
- Val Leu Leu Asp Lys Gln Gln Ala Ala Ile Lys Val Val Cys Asn Ser 805 810 815
- Val Tyr Gly Phe Thr Gly Val Gln His Gly Leu Leu Pro Cys Leu His 820 825 830
- Val Ala Ala Thr Val Thr Thr Ile Gly Arg Glu Met Leu Leu Ala Thr 835 840 845
- Arg Glu Tyr Val His Ala Arg Trp Ala Ala Phe Glu Gln Leu Leu Ala 850 855 860
- Asp Phe Pro Glu Ala Ala Asp Met Arg Ala Pro Gly Pro Tyr Ser Met 865 870 875 880
- Arg Ile Ile Tyr Gly Asp Thr Asp Ser Ile Phe Val Leu Cys Arg Gly

- Leu Thr Ala Ala Gly Leu Thr Ala Val Gly Asp Lys Met Ala Ser His
 900 905 910
- Ile Ser Arg Ala Leu Phe Leu Ser Pro Ile Lys Leu Glu Cys Glu Lys 915 920 925
- Thr Phe Thr Lys Leu Leu Ile Ala Lys Lys Tyr Ile Gly Val 930 935 940
- Ile Tyr Gly Gly Lys Met Leu Ile Lys Gly Val Asp Leu Val Arg Lys 945 950 955 960
- Asn Asn Cys Ala Phe Ile Asn Arg Thr Ser Arg Ala Leu Val Asp Leu 965 970 975
- Leu Phe Tyr Asp Asp Thr Val Ser Gly Ala Ala Ala Ala Leu Ala Glu 980 985 990
- Arg Pro Ala Glu Glu Trp Leu Ala Arg Pro Leu Pro Glu Gly Leu Gln
 995 1000 1005
- Ala Phe Gly Ala Val Leu Val Asp Ala His Arg Arg Ile Thr Asp 1010 1015 1020
- Pro Glu Arg Asp Ile Gln Asp Phe Val Leu Thr Ala Glu Leu Ser 1025 1030 1035
- Arg His Pro Arg Ala Tyr Thr Asn Lys Arg Leu Ala His Leu Thr 1040 1045 1050
- Val Tyr Tyr Lys Leu Met Ala Arg Arg Ala Gln Val Pro Ser Ile 1055 1060 1065
- Lys Asp Arg Ile Pro Tyr Val Ile Val Ala Gln Thr Arg Glu Val 1070 1075 1080
- Glu Glu Thr Val Ala Arg Leu Ala Ala Leu Arg Glu Leu Asp Ala 1085 1090 1095
- Ala Ala Pro Gly Asp Glu Pro Ala Pro Pro Ala Ala Leu Pro Ser 1100 1105 1110
- Pro Ala Lys Arg Pro Arg Glu Thr Pro Leu His Ala Asp Pro Pro 1115 1120 1125
- Gly Gly Ala Ser Lys Pro Arg Lys Leu Leu Val Ser Glu Leu Ala 1130 1135 1140
- Glu Asp Pro Ala Tyr Ala Ile Ala His Gly Val Ala Leu Asn Thr 1145 1150 1155
- Asp Tyr Tyr Phe Ser His Leu Leu Gly Ala Ala Cys Val Thr Phe 1160 1165 1170
- Lys Ala Leu Phe Gly Asn Asn Ala Lys Ile Thr Glu Ser Leu Leu 1175 1180 1185
- Lys Arg Phe Ile Pro Glu Val Trp His Pro Pro Asp Asp Val Ala 1190 1195 1200

Ala Arg Leu Arg Ala Ala Gly Phe Gly Ala Val Gly Ala Gly Ala 1205 1210 1215

Leu Ala 1235